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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,352	06/28/2001	Robert Baumgartner	P01,0062	6267

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EXAMINER	
KNOLL, CLIFFORD H	

ART UNIT	PAPER NUMBER
2112	12

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No	Applicant(s)	
	09/807,352	BAUMGARTNER ET AL.	
	Examiner	Art Unit	
	Clifford H Knoll	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *13-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-18* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to communication ("Amendment") filed 3/15/04, and to a previous communication ("Preliminary Amendment") filed 4/12/01 is acknowledged. The preliminary amendment was received but not available to the Examiner at the time of the first Office Action; therefore, this Office Action treats both communications at this time. Currently claims 1-12 are pending. Claims 13-18 are being withdrawn as being directed to non-elected inventions.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-10, drawn to bus clocking for bus access, classified in class 710, subclass 113.

II. Claim13-17, drawn to data messaging and acknowledgement on a bus, classified in class 710, subclass 107.

III. Claim 18, drawn to a means for adapting peripherals, classified in class 710, subclass 72.

The inventions are distinct, each from the other because:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP §

806.05(c)). In the instant case, invention I has separate utility for systems that clock data, but do not necessarily send messages or specify acknowledgement.

Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions with invention I being directed to bus clocking and arbitration, while invention III is directed to adapting a peripheral in a printer control unit.

Inventions II and III are unrelated. Invention I is directed to data messaging and acknowledgement, while invention III is directed to adapting a peripheral in a printer control unit.

During a telephone conversation with Melvin Robinson (31,870) on 5/27/04 a provisional election was made with traverse to prosecute the invention of group I, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claim13-18 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

Substitute specification, filed 5/25/04, has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-5, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Lagoy (US 4918645).

Regarding claim 1, Lagoy discloses parallel signal lines to which a plurality of assemblies can be connected (e.g., col.5, lines 1-7), non-transparent databus driver and controller (e.g., Figure 5, "72", "66"), whereby a sub-number of signal lines represent data lines and control lines for controlling (e.g., col.5, lines 11-14), and the clock generator (e.g., Figure 5, "BCLK", "SCLK"), and signals to be transmitted from and to the data and control lines are accepted during a clock pulse (e.g., col.7, lines 52-53, "Cas*"), and are emitted during a following clock pulse (e.g., col.7, lines 58-60).

Regarding claim 2, Lagoy also discloses the bus frequency of at least 20 MHz (e.g., col.4, lines 43-49, "CCLK").

Regarding claim 4, Lagoy also discloses 32 data lines (e.g., col.5, line 4).

Regarding claim 5, Lagoy also discloses decision lines for deciding which of said plurality of assemblies connected to said parallel signal lines has access priority, with

non-clocked open-drain outputs connected forming a wired-or logic (e.g., col. 4, lines 59-62).

Regarding claim 11, Lagoy discloses a processor (e.g., Figure 1).

Regarding claim 12, Lagoy discloses multibus compatibility (e.g., col. 3, lines 51-56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lagoy in view of Harrison (US 5337411).

Regarding claim 3, Lagoy is silent on a frequency of 40 MHz, however this feature is disclosed by Harrison. Harrison discloses a 40 MHz bus frequency in a Multibus system (e.g., col.3, lines 56-59). It would be obvious to combine Harrison with Lagoy because Harrison teaches his disclosure in the context of a Multibus II system (e.g., col.1, lines 16-29) and further discloses the advantages of increasing clock frequency in a bus system such as the system of Lagoy (e.g., col.3, lines 50-54).

Therefore it would be obvious to one of ordinary skill in the art to combine Harrison with Lagoy at the time the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lagoy in view of Alnuweiri (US 5572687).

Regarding claim 6, Lagoy is silent on the particular means for generating the auxiliary clock with a lower frequency; however this is disclosed by Alnuweiri (US 5572687). Alnuweiri discloses the auxiliary clock pulse for driving the decision lines (e.g., col. 9, lines 59-64). It would be obvious to combine Alnuweiri with Lagoy, because Alnuweiri teaches an improved method of arbitration which would improve the capabilities of a system employing a bus arbitration scheme, such as the system of Lagoy. Therefore, it would have been obvious to one of ordinary skill in the art to combine Alnuweiri with Lagoy to obtain the claimed invention.

Regarding claim 7, Lagoy fails to disclose a frequency divider; however Alnuweiri discloses a frequency divider (e.g., col. 9, lines 59-64).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lagoy in view of widely known design techniques, as evidenced by Ammar (*Understanding Advanced Bus-Interface Products*).

Regarding claim 8, Lagoy neglects to mention implementational details of logic types used; however, Examiner takes Official Notice that low voltage TTL drivers are ubiquitous in the industry for drivers, as evidenced by Ammar. Ammar discloses that

low voltage TTL drivers (e.g., p. 2). It would have been obvious to combine low voltage TTL drivers with Lagoy, because the use of low voltage TTL drivers is widely known and ubiquitously applied in the industry. Therefore it would have been obvious to one of ordinary skill in the art to combine Ammar with Lagoy to obtain the claimed invention.

Claims 9 and 10 are *rejected under 35 U.S.C. 103(a) as being unpatentable over Lagoy in view of widely known design techniques, as evidenced by Appelbaum (US 5758188).*

Regarding claims 9 and 10, Lagoy neglects to mention implementational details of bus length; however extending buses to at least 50 cm is widely known, as evidenced by Appelbaum. Appelbaum discloses a bus having an extent of at least 50 cm (col. 2, lines 59-63). It would have been obvious to combine design techniques with Lagoy because it is desirable to extend buses adequate lengths to encompass the requirements of the controllers that attach to it. Therefore it would have been obvious to one of ordinary skill in the art to combine standard bus design techniques with Lagoy to obtain the claimed invention.

Response to Arguments

Applicant argues that objection to claims is improper as there are no improper multiple dependent claims. In light of claims presented in Applicant's preliminary

amendment, which, though timely filed, was not available to the Examiner upon first Action, Examiner concurs.

Applicant argues that a final Second Action would not be appropriate. Examiner concurs. This instant Action is non-final.

Applicant has amended independent claim 1 limiting the databus driver to a "non-transparent electronic device". As argued by Applicant, as distinguished from the prior art, in the Applicant's invention, "during a first clock pulse the controller 4 of the transmitter assembly S transmits a data word to the data bus driver of the transmitter assembly S. The data bus driver 3 stores the data word and converts it into a signal that is suitable for the data bus 5, whereby the signal is present at the signal lines of the data bus during the following second clock pulse. During the second clock pulse these electrical data signals are accepted by the data bus driver 3 of the receiver assembly 2, they are temporally stared and are transmitted to controller 4 of the receiving assembly E during the following third clock pulse" and further that "different data words are simultaneously transmitted from the transmitter assembly S to the data bus driver and from the data bus driver of the transmitter assembly S to the data bus driver of the receiver assembly. This is obviously only possible when the data bus driver is fashioned as a non-transparent electronic component" (pp. 8-9).

The broadest reasonable interpretation of the term "non-transparent" based on this assertion is a buffer that is double-clocked, that is a buffer that clocks data in and subsequently clocks data out. The relationship of the clock pulses that effects the

double clocking is unspecified, except by recitation that the second pulse ("a further clock pulse") "follows" the first ("said clock pulse").

The system of Lagoy is found to teach a clock pulse for accepting, and a "following" clock pulse for emitting. The citations given above for Lagoy should make this interpretation clear. In light of interpretation of amendatory language, Examiner determines that Lagoy remains an anticipatory reference.

Thus the rejection, using Lagoy, of claims originally examined is maintained.

Applicant argues that Mozdzen is not practicable in the current invention because it is "very complicated to realize a bi-directional data transmission with a delayed clock signal in a multi-processor system" (p. 9). This does not, on its face, address the appropriateness of the rejection; however, upon reconsideration of the Mozdzen reference, Examiner notes that Mozdzen does not teach a use in a multiprocessor system, while independent claim 1 does in fact require a plurality of assemblies, each having a databus driver, each of which is capable of the said emitting. For this reason, the Mozdzen rejection is withdrawn.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Apostol (US 6247084) discloses a non-transparent driver in a multiprocessor system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H Knoll whose telephone number is 703-305-8656. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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